

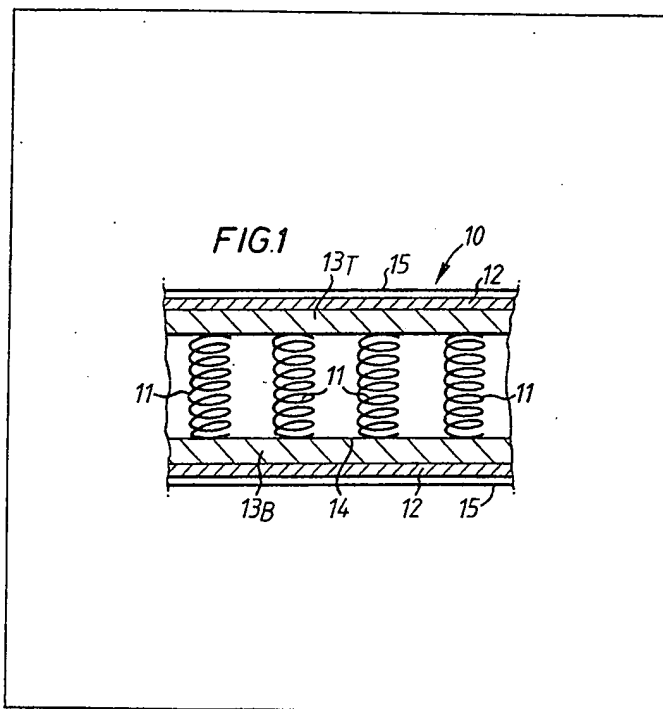
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(54) Improved mattress

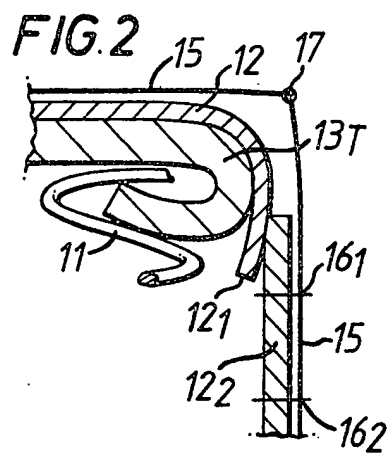
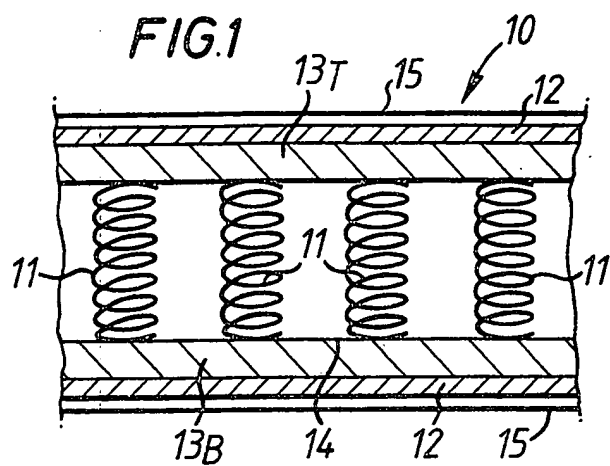
(57) A mattress (10) comprises an interior spring (11) that is covered totally or in part by one sheet (12) or more of a flame resistant non-drip foam, and inside the sheet or sheets 12 on the top and bottom ends of the spring (11) there are placed two further sheets (13T, 13B) of flame

resistant non-drip foam each of sufficient thickness and strength to prevent the spring from cutting through the foam when the mattress is in use. The sheets 12, 13 may comprise a composite material with a foamed PVC base and a layer of cotton treated with borax or boric acid or a plastics sheet treated with antimony oxide on the base.



The drawing originally filed was informal and the print here reproduced is taken from a later filed formal copy.

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# SPECIFICATION Improved mattress

Mattresses presently in use and sold to the public are not generally resistant to fire. The hazards are known and Government regulations in this and other countries are now enacted or about to be enacted, to cause new manufactures of mattresses to other bedding to possess flame retardant properties.

- 10 Flame retardant materials are known and one is described and claimed in United Kingdom Patent Application 15633/77 to Elson & Robbins Ltd. This material is a composite having a layer of a foamed polyvinyl chloride having a density in the range of 48 to 208 kg/m<sup>3</sup> (3 to 13 pounds per cubic foot) and generally in a range of thickness of 1 to 90 mm covered with a flame retardant sheet such as cotton treated with Borax/Boric acid; or a plastics sheet treated with antimony oxide. Herein this material is referred to as a flame resistant non-drip foam.

It is, however, uncommonly difficult even with present day technology and materials to make a mattress withstand the fire tests now proposed in the regulations and thus possess the desired flame retardant properties.

- This desideratum is met according to the present invention by providing a mattress comprising an interior spring that is covered totally or in part by one sheet or more of a flame resistant non-drip foam, inside the said sheet on the top and bottom ends of the interior spring there are placed two further sheets of flame resistant non-drip foam each of sufficient thickness and strength to prevent the spring from cutting through it when the mattress is in use.

The invention will be more fully understood from the following description given by way of example with reference to the figures of the

- 40 accompanying drawing in which:—

Figure 1 is a side elevation in section of a part of a mattress of the invention and Figure 2 is a scrap view of an end elevation showing to an increased scale the formation of an overlap joint.

- 45 Referring now to the figures of the drawing there is shown generally at 10 a mattress having interior springs 11 and covered by a sheet 12 of flame resistant non-drip foam having a thickness of 6 mm. On the top and bottom ends of the spring are two further sheets 13<sub>1</sub>, 13<sub>2</sub> each of a flame resistant non-drip foam of heavy duty and each having a thickness of 10 mm with a flame retardant fabric backing, as shown at 14.

- The whole is covered by an outer conventionally coloured and decorated tick material 15 that is also treated to give it flame retardant properties suitably taped at the edges as shown at 17 by flame retardant tape.

- It is to be noted that sheet 12 may cover the mattress *in toto* or as shown in Figure 2 in part terminating along the side of the mattress at 12<sub>1</sub> and overlapped by a side piece 12<sub>2</sub> of flame retardant non-drip foam. The side piece 12<sub>2</sub> is stitched to the tick material 15 at, for example, 16<sub>1</sub>, 16<sub>2</sub> to make a preformed border.

## CLAIMS

1. A mattress comprising an interior spring that is covered totally or in part by one sheet or more of a flame resistant non-drip foam, inside the said sheet or sheets on the top and bottom ends of the interior spring there are placed two further sheets of flame resistant non-drip foam each of sufficient thickness and strength to prevent the spring from cutting through the foam when the mattress is in use.

2. A mattress constructed and arranged substantially as herein described and as shown in the figures of the accompanying drawing.